



LEVEL 2 WETLAND DELINEATION REPORT

HILLCREST REDEVELOPMENT MASTERPLAN

MAY 14, 2020

Prepared for:
St. Paul Port Authority
380 St Peter St.
St. Paul, MN 55102

WSB PROJECT NO. 013987-000



PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Saint Paul Port Authority
(Kathryn L. Sarnecki, Vice President Redevelopment)
Mailing Address: 380 Saint Peter Street, Suite 850; St. Paul, MN 55102
Phone: 651-204-6221
E-mail Address: kls@sppa.com

Authorized Contact (do not complete if same as above): Monte Hilleman
Mailing Address:
Phone: 651-224-5686
E-mail Address: mmh@sppa.com

Agent Name: WSB (Dustin Simonson)
Mailing Address: 540 Gateway Blvd, Burnsville, MN 55337
Phone: 763-270-3475
E-mail Address: dsimonson@wsbeng.com

PART TWO: Site Location Information

County: Ramsey **City/Township:** St. Paul
Parcel ID and/or Address: SW Corner of Larpenteur Avenue East and McKight Road North
Legal Description (Section, Township, Range): S23, T29, R22
Lat/Long (decimal degrees): 44.983149, -93.007816
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 115 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted **prior to** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

The St. Paul Port Authority is currently looking to redevelop the old Hillcrest Golf Course. As part of the planning for this redevelopment the Port Authority has authorized WSB to conduct a wetland delineation of the water resources on site for planning purposes.

PART FOUR: Aquatic Resource Impact¹ Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) ¹	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature:  Date: 5/18/20

I hereby authorize WSB (Dustin Simonson) to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Attachment A

Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☒ **Wetland Type Confirmation**

☒ **Delineation Concurrence.** Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination.** A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☒ **Approved Jurisdictional Determination.** An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).

<http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx>

Attachment B

Supporting Information for Applications Involving Exemptions, No Loss Determinations, and Activities Not Requiring Mitigation

Complete this part ***if*** you maintain that the identified aquatic resource impacts in Part Four do not require wetland replacement/compensatory mitigation OR ***if*** you are seeking verification that the proposed water resource impacts are either exempt from replacement or are not under CWA/WCA jurisdiction.

Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:

8420.0105 Subp 2 D

Provide a detailed explanation of how your project or site qualifies for the above. Be specific and provide and refer to attachments and exhibits that support your contention. Applicants should refer to rules (e.g. WCA rules), guidance documents (e.g. BWSR guidance, Corps guidance letters/public notices), and permit conditions (e.g. Corps General Permit conditions) to determine the necessary information to support the application. Applicants are strongly encouraged to contact the WCA LGU and Corps Project Manager prior to submitting an application if they are unsure of what type of information to provide:

As part of the golf course construction back in the 1930's water hazards were constructed and used throughout the golf course. These areas have been maintained as water hazards over the life of the golf course by pumping water in and out of the ponds to maintain the desired water level.

LEVEL 2 WETLAND DELINEATION REPORT

HILLCREST REDEVELOPMENT MASTERPLAN

For:

ST. PAUL PORT AUTHORITY

May 14, 2020

Prepared by:



CERTIFICATION

The report was prepared by:

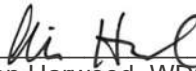


Dustin Simonson, WDC No.1303

Date: May 14, 2020

Title: Environmental Scientist

I hereby certify that this report was reviewed by me and that I am a Certified Wetland Delineator in the State of Minnesota.



Alison Harwood, WDC No.1238

Date: May 14, 2020

Title: Director of Natural Resources

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SECTION I

I. Introduction

A. Project Location

The project is located in the southeast corner of the intersection of Larpenteur Avenue East and McKnight Road North, in the City of St. Paul, Ramsey County, Minnesota. The project area consists of approximately 115 acres in Section 23 of Township 29 and Range 22, Major Watershed #20, BSA #7 (**Figure 1, Appendix A**).

B. Project Purpose

The St. Paul Port Authority is proposing redevelopment of the previously owned Hillcrest Golf Course. This report is intended to address all jurisdictional WCA, Public Water, or Section 404 wetlands and/or waters for final design and permitting of this project. This project was authorized by the St. Paul Port Authority.

C. Project Scope

The scope of this project was to delineate all wetlands within the outlined project area. Since the site was a functioning golf course many of the water resources present onsite are constructed ponds that were used as water hazards for the golf course. Part of this delineation was to showcase the difference between the constructed ponds and natural wetlands.

D. Summary of Findings

A Level 2 wetland delineation was performed on the site. A total of six wetlands and four ponds were identified and delineated in the preparation of this report, as summarized in **Table 1**. For a visual representation of the locations and size, please see **Figure 6, Appendix B**. All potential wetland areas (mapped hydric soils, NWI signatures, and low depressional areas) were reviewed on-site and either delineated or determined to be upland.

Table 1: Summary of Delineated Wetlands, Hillcrest Redevelopment, Ramsey County, Minnesota

ID	Delineation Method	No. Flags/ No. Transects	Eggers and Reed	Circular 39 (Cowardin)	NWI*	DNR PWI**	County Soil Survey (Hydric/Non-Hydric)***	Wetland Size (acres)
Pond A	Level 2	N/A	Shallow open water	Type 5 PUBG	Yes	NA	W	0.68 ac
Wetland B	Level 2	1-22/1	Shallow Marsh	Type 3 PEMC	Yes	NA	342C	0.43 ac
Wetland C	Level 2	1-24/1	Shallow Marsh	Type 3 PEMC	Yes	NA	1055	0.93 ac
Pond D	Level 2	N/A	Shallow open water	Type 5 PUBG	Yes	NA	W	0.79 ac
Wetland E	Level 2	1-32/1	Wet Meadow/ Shrub Carr	Type 2/6 PEMB/PSSA	No	NA	189	0.49 ac
Pond F	Level 2	1-27/1	Shallow Marsh / Shrub Carr	Type 3/6 PEMC/PSSA	Yes	NA	342C	0.13 ac

SECTION I

ID	Delineation Method	No. Flags/ No. Transects	Eggers and Reed	Circular 39 (Cowardin)	NWI*	DNR PWI**	County Soil Survey (Hydric/Non-Hydric)***	Wetland Size (acres)
Pond G	Level 2	1-20/1	Shallow open water	Type 5 PUBG	No	NA	W	0.39 ac
Wetland H	Level 2	1-22/1	Deep Marsh	Type 4 PEMF	Yes	NA	544	0.41 ac
Wetland I	Level 2	1-21/1	Shallow open water	Type 5 PUBG	Yes	NA	266/ 544	0.04 ac
Wetland J	Level 2	1-4/1	Seasonally flooded Basin	Type 1 PEMA	No	NA	1027	0.05 ac

* "Yes" indicates wetland is mapped in the NWI and "No" indicates the wetland is not mapped in the NWI.

** "NA" indicates the wetland is not mapped in the PWI. Numbers listed are the DNR ID, indicating the wetland is mapped in the PWI.

*****Bolded numbers indicate hydric soils.**

SECTION II

II. Delineation Procedure

A. Off-Site Determination: Base Map Review

Topography: The landform consists of relatively flat area with gentle rolling hills and small depressions scattered throughout the site. The wetlands were located primarily along the eastern portion of the site. Water generally flows from the northwest to the southeast (**Figure 2, Appendix A**).

The *DNR Public Waters and Wetlands Map, Ramsey County, MN* (Minnesota Department of Natural Resources, 1983) shows no public waters within the project area (**Figure 3, Appendix A**).

The *National Wetlands Inventory Map* (Minnesota Department of Natural Resources) identified seven wetlands as part of the National Wetlands Inventory (NWI) (**Figure 4, Appendix A**). The NWI identifies the following wetland types: PUBGx, PEM1A, PEM1C, PSS1A, and PEM1F.

The *Soil Survey of Ramsey County, Minnesota* (<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>) identified the following soils (**Table 2**) within the project area (**Figure 5, Appendix A**):

Table 2: Soil Survey

Map Symbol	Soil Unit Name	Percent Hydric	Rating
153C	Santiago silt loam, 6 to 15 percent slopes	0	Not hydric
189	Auburndale silt loam, 0 to 2 percent slopes	95	Predominantly hydric
266	Freer silt loam	5	Predominantly non-hydric
342B	Kingsley sandy loam, 2 to 6 percent slopes	3	Predominantly non-hydric
342C	Kingsley sandy loam, 6 to 12 percent slopes	0	Not hydric
342D	Kingsley sandy loam, 12 to 18 percent slopes	0	Not hydric
544	Cathro muck	97	Predominantly hydric
861C	Urban land-Kingsley complex, 3 to 15 percent slopes	0	Not hydric
1027	Udorthents, wet substratum	0	Not hydric
1055	Aquolls and histosols, ponded	100	All hydric
W	Water	0	Not hydric

Antecedent Climate Conditions: Historic climate data and WETS data were obtained from the Minnesota Climatology Working Group preceding the April 22 and 23, 2020 site visit, which fell within the wetter than normal precipitation range. Records of the precipitation can be found in **Appendix D**.

SECTION II

B. On-Site Determination

A Level 2 field investigation was conducted by Dustin Simonson (WDC No.1303) of WSB on April 21 and 22, 2020 within the project area. No deviation or omissions were undertaken as part of this investigation.

The project area was delineated using the routine methodology described in the *Corps of Engineers Wetlands Delineation Manual* (US Army Corps of Engineers 1987), with additional guidance provided by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*. Wetlands were classified according to the methodologies set forth in *Wetlands of the United States (Circular 39)*, USFWS Shaw and Fredine 1971; *Classification of Wetlands and Deepwater Habitats of the United States*, Cowardin 1979; and *Wetland Plants and Plant Communities of Minnesota and Wisconsin, 2nd ed.*, Eggers and Reed 1997. The wetland types in this report are classified by the Circular 39, Cowardin, and Eggers and Reed Classifications.

Soil types were researched prior to the on-site investigation with the assistance of the *Soil Survey of Ramsey County* from the National Resources Conservation Service. All soil test pits were excavated to a minimum depth of 24 inches unless otherwise noted. Soil colors were described on-site per the *Munsell Soil Color Charts* (2009 Revised Edition) from the test pits in and adjacent to the wetlands. Hydric soils were identified using the current technical criteria for hydric soils developed by the NRCS in 2017 (Version 8.1). The presence of water was observed after time was allowed for movement of water through the substrate. This time varied depending upon soil characteristics.

The quadrant sampling method was employed for all sample points unless otherwise noted. Vegetation was measured as actual areal cover and may exceed 100 percent of total area due to overlap. Grasses and herbaceous vegetative cover were measured within a circular plot of a 5-foot-radius, all woody shrubs and saplings were measured within a circular plot with a 15-foot-radius, and trees and woody vines were measured in a 30-foot-radius circular plot. Regional plant identification resources were utilized in the identification of plant species, with indicator status taken from the *2016 National Wetland Plant List* (US Army Corps of Engineers 2016). Plant species dominance was estimated based on the absolute percent coverage for herbaceous, shrub-sapling, and tree strata if present. In addition to the use of indicators of hydrology, hydric soils, and the presence of hydrophytic vegetation, other evidence such as topographic breaks and watershed characteristics were used to determine the wetland boundary.

Midwest Regional Supplement Routine Wetland Delineation data forms were used to record vegetation, hydrology, and soil characteristics at sample points in and adjacent to the wetlands (**Appendix B**). Sampling transects were taken along the wetland-upland boundary of the wetland. Transects and delineated wetland boundaries were field surveyed using a sub-meter accuracy handheld GPS unit. Approximate sampling points and delineated wetland edges are shown on **Figures 6a – 6e, Appendix B**. Pictures of each wetland can be found in **Appendix C**.

SECTION III

III. Results and Wetland Information

The wetland delineation data forms (**Appendix B**) and photos (**Appendix C**) are attached. A summary of the delineation is below.

A. Wetland B

Circular 39: Type 3

Cowardin: PEMC

Eggers and Reed Field Classification: Shallow marsh

Soil mapping unit: Kingsley sandy loam

No. Transects: 1 **No. Additional Sample Points:** 0

Wetland Flags: 22

Wetland Size (within Project Area): 0.43 ac

Wetland B is positioned directly south of Pond A. The wetland is characterized as shallow marsh. The wetland boundary is outlined in **Figure 6b, Appendix B**.

Dominant vegetation in the wetland consisted of black willow (*Salix nigra*) and American elm (*Ulmus Americana*) in the tree stratum; Kentucky blue grass (*Poa pratensis*) in the herb stratum at the edge of the wetland. The interior of the wetland is dominated by narrow leaf cattails (*Typha angustifolia*). Hydric soil indicators were not specifically met but were considered to be hydric based on other factors. The soils were one shade off from Depleted Below Dark Surface (A11). This layer was also seen further in the wetlands within the cattails. It was assumed that this layer could be the remnants of past fill from the construction of the golf course. Hydrology indicators included Geomorphic Position (D2) and FAC-neutral Test (D5).

Dominant vegetation in the upland consisted of Kentucky blue grass (*Poa pratensis*) in the herb stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

The wetland boundary was placed along a slight topographic break where soils lost redox in the upper layer.

B. Wetland C

Circular 39: Type 3/6

Cowardin: PEMC/PSSA

Eggers and Reed Field Classification: Shallow marsh/Shrub carr

Soil mapping unit: Aquolls and histosols, ponded

No. Transects: 1 **No. Additional Sample Points:** 0

Wetland Flags: 24

Wetland Size (within Project Area): 0.93 ac

Wetland C is positioned southeast of Wetland B. The wetland is characterized as a wet meadow wetland with a shrub carr fringe. The wetland boundary is outlined in **Figure 6b, Appendix B**.

Dominant vegetation in the wetland consisted of American elm (*Ulmus Americana*) and black willow (*Salix nigra*) in the tree stratum; common buckthorn (*Rhamnus cathartica*) and sandbar willow (*Salix interior*) in the sapling/shrub stratum. Hydric soil indicators consisted of Black Histic (A3) and Loamy Mucky Mineral (F1). Hydrology indicators included Surface Water (A1), High Water Table (A2), Saturation (A3), Geomorphic Position (D2), and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of Kentucky blue grass (*Poa pratensis*) in the herb stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

SECTION III

The wetland boundary was placed along a topographic break where vegetation transitions from Kentucky blue grass into sandbar willow.

C. Wetland E

Circular 39: Type 2/6

Cowardin: PEMB/PSSA

Eggers and Reed Field Classification: Wet meadow/Shrub Carr

Soil mapping unit: Auburndale silt loam

No. Transects: 2 **No. Additional Sample Points:** 0

Wetland Flags: 32

Wetland Size (within Project Area): 0.49 ac

Wetland E is positioned south of Pond D. The wetland is characterized as wet meadow in the northern portion of the wetland and a shrub carr in the south portion of the wetland. The wetland boundary is outlined in **Figure 6c, Appendix B**.

Dominant vegetation in the wetland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of Thick Dark Surface (A12). Hydrology indicators included Geomorphic Position (D2), and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of Kentucky blue grass (*Poa pratensis*) in the herb stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

The wetland boundary was placed along a topographic break where vegetation transitions from Kentucky blue grass into reed canary grass.

D. Wetland H

Circular 39: Type 4

Cowardin: PEMF

Eggers and Reed Field Classification: Deep Marsh

Soil mapping unit: Cathro Muck

No. Transects: 1 **No. Additional Sample Points:** 0

Wetland Flags: 22

Wetland Size (within Project Area): 0.41 ac

Wetland H is positioned in the southeast corner of the project area and is adjacently west of McKight Road. The wetland is characterized as deep marsh. The wetland boundary is outlined in **Figure 6d, Appendix B**.

Dominant vegetation in the wetland consisted lake bank sedge (*Carex lacustris*) in the herb stratum. Hydric soil indicators consisted of Loamy Mucky Mineral (F1). Hydrology indicators included Surface Water (A1), High Water Table (A2), Saturation (A3), Geomorphic Position (D2), and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of quaking aspen (*Populus tremuloides*) in the tree stratum; common buckthorn (*Rhamnus cathartica*) in the sapling/shrub stratum; Kentucky blue grass (*Poa pratensis*) in the herb stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

The wetland boundary was placed along a slight topographic break where vegetation transitions from lake bank sedge into common buckthorn.

SECTION III

E. Wetland I

Circular 39: Type 5

Cowardin: PUBG

Eggers and Reed Field Classification: Shallow open water

Soil mapping unit: Freer silt loam / Cathro muck

No. Transects: 0 **No. Additional Sample Points:** 0

Wetland Flags: 21

Wetland Size (within Project Area): 0.04 ac

Wetland I is positioned North of Wetland H in the southeast portion of the project area. The wetland is characterized as shallow open water. The wetland boundary is outlined in **Figure 6d, Appendix B**.

Wetland I is primarily a channelized open water wetland. A channel to the west appears to be collecting excess water from drain tiles from the golf course. There is a fringe area in the northwest portion of the wetland that is seasonally flooded wetland that is mowed Kentucky blue grass.

The wetland boundary was placed along a steep topographic break where the open water channel rises into a wooded area on the east side and mowed grass on the west side.

F. Wetland J

Circular 39: Type 1

Cowardin: PEMA

Eggers and Reed Field Classification: Seasonally flooded basin

Soil mapping unit: Udorthents, wet substratum

No. Transects: 1 **No. Additional Sample Points:** 0

Wetland Flags: 4

Wetland Size (within Project Area): 0.05 ac

Wetland J is positioned in the northwest portion of the project area. The wetland is characterized as seasonally flooded basin. The wetland boundary is outlined in **Figure 6e, Appendix B**.

Dominant vegetation in the wetland consisted of silver maple (*Acer saccharinum*) and green ash (*Fraxinus pennsylvanica*) in the tree stratum. Hydric soil indicators consisted of Thick Dark Surface (A12). Hydrology indicators included Geomorphic Position (D2), and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of red oak (*Quercus rubra*) silver maple (*Acer saccharinum*) and green ash (*Fraxinus pennsylvanica*) in the tree stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

The wetland boundary was placed along a topographic break where oaks no longer grew.

G. Golf Hazard Ponds

Four water features, Ponds A, D, F, and G, are present within the former golf course and were used as hazard ponds. The ponds were excavated from upland and water was pumped into them to create the open water features. These ponds are located in mapped areas of upland soils and have defined edges that resemble a constructed area. Although these ponds have wetland characteristics, they are incidental due to excavation and hydrology manipulation and should not be regulated under the Wetland Conservation Act. These ponds are described below.

SECTION III

a) Pond A

Circular 39: Type 5

Cowardin: PUBG

Eggers and Reed Field Classification: Shallow open water

Soil mapping unit: Water

Pond Size (within Project Area): 0.68 ac

Pond A is positioned in the northeast portion of the project. The wetland is characterized as shallow open water. The boundary is outlined in **Figure 6b, Appendix B**. This pond was used when the site was a functioning golf course. Because Pond A is an open water pond no transect was completed. The pond is primarily open water with small pockets of narrow leaf cattail (*Typha angustifolia*) near the eastern edge. The edge of the pond is manicured grass along most of the pond and a trail along the south edge.

The boundary was placed along a topographic break where the edge of the water met the manicured lawn.

b) Pond D

Circular 39: Type 5

Cowardin: PUBG

Eggers and Reed Field Classification: Shallow open water

Soil mapping unit: Water

Pond Size (within Project Area): 0.79 ac

Pond D is positioned south of Wetland G and is located in the center of the project area. The pond is characterized as shallow open water. The boundary is outlined in **Figure 6c, Appendix B**. This pond was used when the site was a functioning golf course. Since Pond D is an open water pond no transect was completed. No visible vegetation was growing at the time of the site visit. The edge of the pond is manicured grass along with rocks that line the pond.

The boundary was placed along a topographic break where the edge of the water met the manicured lawn.

c) Pond F

Circular 39: Type 3/6

Cowardin: PEMC/PSSA

Eggers and Reed Field Classification: Shallow Marsh / Shrub Carr

Soil mapping unit: Kingsley Sandy Loam

Pond Size (within Project Area): 0.13 ac

Pond F is positioned in the southwestern portion of the project area. The pond is characterized as shallow marsh with a shrub carr fringe. The boundary is outlined in **Figure 6d, Appendix B**.

Dominant vegetation consisted of sandbar willow (*Salix interior*) along the edges in the sapling/shrub stratum. Hydric soil indicators consisted of Thick Dark Surface (A12). Hydrology indicators included Geomorphic Position (D2), and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of Kentucky blue grass (*Poa pratensis*) in the herb stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

The boundary was placed along a topographic break where vegetation transitions from Kentucky blue grass into sandbar willow.

SECTION III

d) Pond G

Circular 39: Type 5

Cowardin: PUBG

Eggers and Reed Field Classification: Shallow open water

Soil mapping unit: Water

Pond Size (within Project Area): 0.39 ac

Pond G is positioned north of Pond D and is in the center of the project area. The pond is characterized as shallow open water wetland. The boundary is outlined in **Figure 6c, Appendix B**. This pond was used when the site was a functioning golf course. Because Pond G is an open water pond no transect was completed. No visible vegetation was growing at the time of the site visit. The edge of the pond is manicured grass along with rocks that line the pond.

The boundary was placed along a topographic break where the edge of the water met the manicured lawn.

H. Additional Aquatic Resources

One wet ditch was present onsite. This ditch is located west of Wetland I and is separated from the wetland by a trail (**Figure 6c, Appendix B**). Hydrology is connected to Wetland I through a culvert. This ditch is rock lined and was mowed at the time of the site visit. The ditch has enough of a slope where water flows through the ditch and into Wetland I.

I. Additional Sampled Areas

Two additional sample points were taken during the site visit, SP1 and SP2. SP1 is located along the western edge of the project area (**Figure 6d, Appendix B**). This area is a depression area where water appears to collect. Upon review the area was dominated by Kentucky blue grass but did not meet hydric soils and was delineated as upland. SP2 is located in the southeast portion of the project area (**Figure 6d, Appendix B**). This area is a depression in a wooded area that was dominated by red oaks and green ash. This area appears to collect water but does not have hydric soils and was delineated as upland.

SECTION IV

IV. Summary and Closing Statements

Six wetlands were delineated within the project area using the Level 2 method. Four ponds and one wet ditch were also identified that were constructed as part of the golf course. Two additional areas investigated but determined to be upland.

The wetland delineation report was completed by Dustin Simonson of WSB. This delineation report is being submitted as a request for approval of Wetland Type and Boundary of the wetland described herein. The application for Boundary and Type Approval is included along with this report.

SECTION V

V. References

The following sources of information were reviewed to assist in performing the wetland delineation.

Literature Sources

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United States Army Corps of Engineers- St. Paul District and Minnesota Board of Water & Soil Resources. March 4, 2015. Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and Wetland Conservation Act Local Governmental Units in Minnesota, Version 2.0.

United States Army Corps of Engineers. 1987 2014. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Version 2.0 Waterways Experiment Station.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Webs Soil Survey, Minnesota. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed 4/20/2020.

APPENDIX

APPENDIX A

Figure 1: Project Location

Figure 2: Topography

Figure 3: DNR Public Waters Inventory

Figure 4: National Wetlands Inventory

Figure 5: County Soil Survey

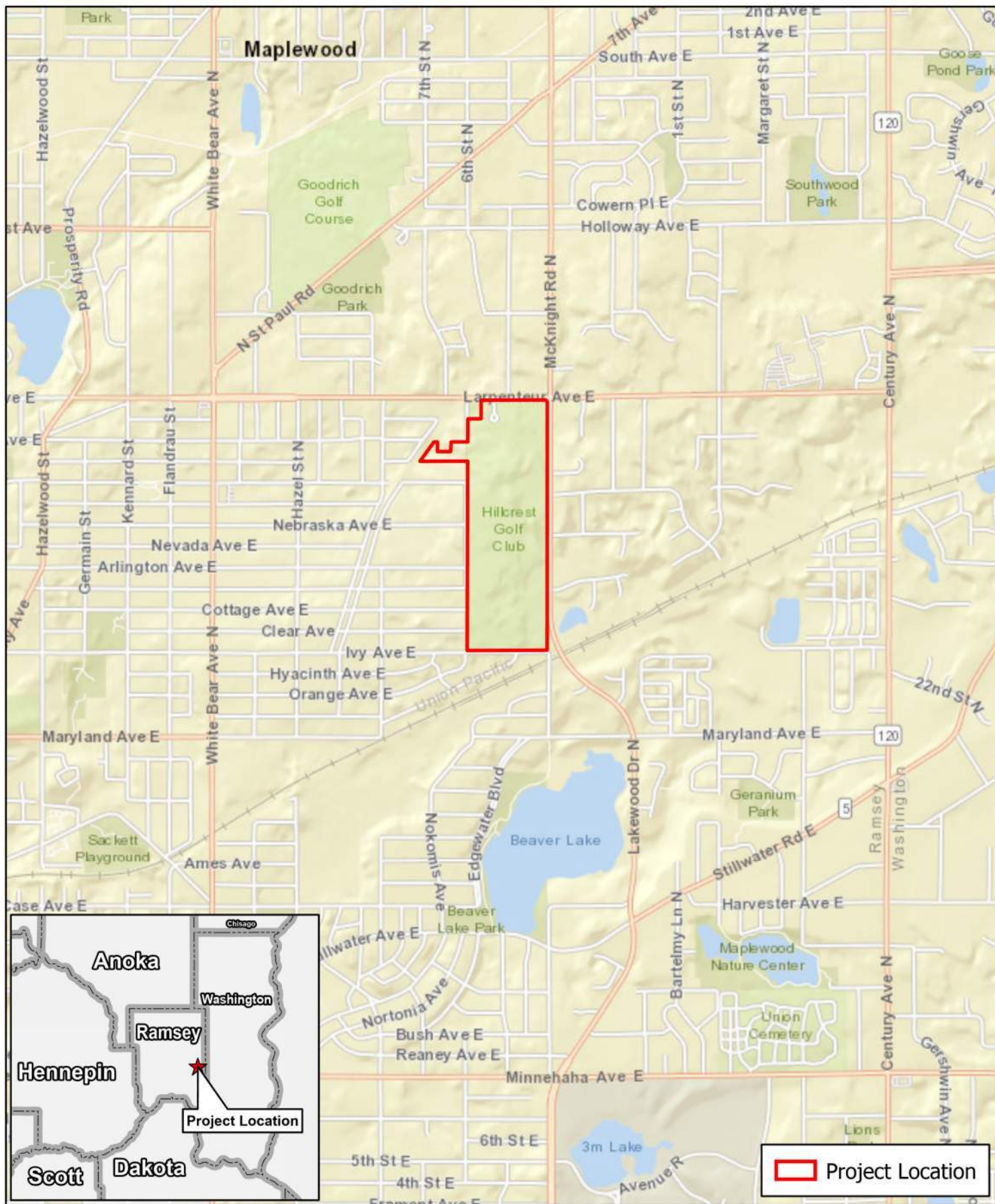


Figure 1: Project Location

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 2,000
Feet
1 inch = 2,000 feet



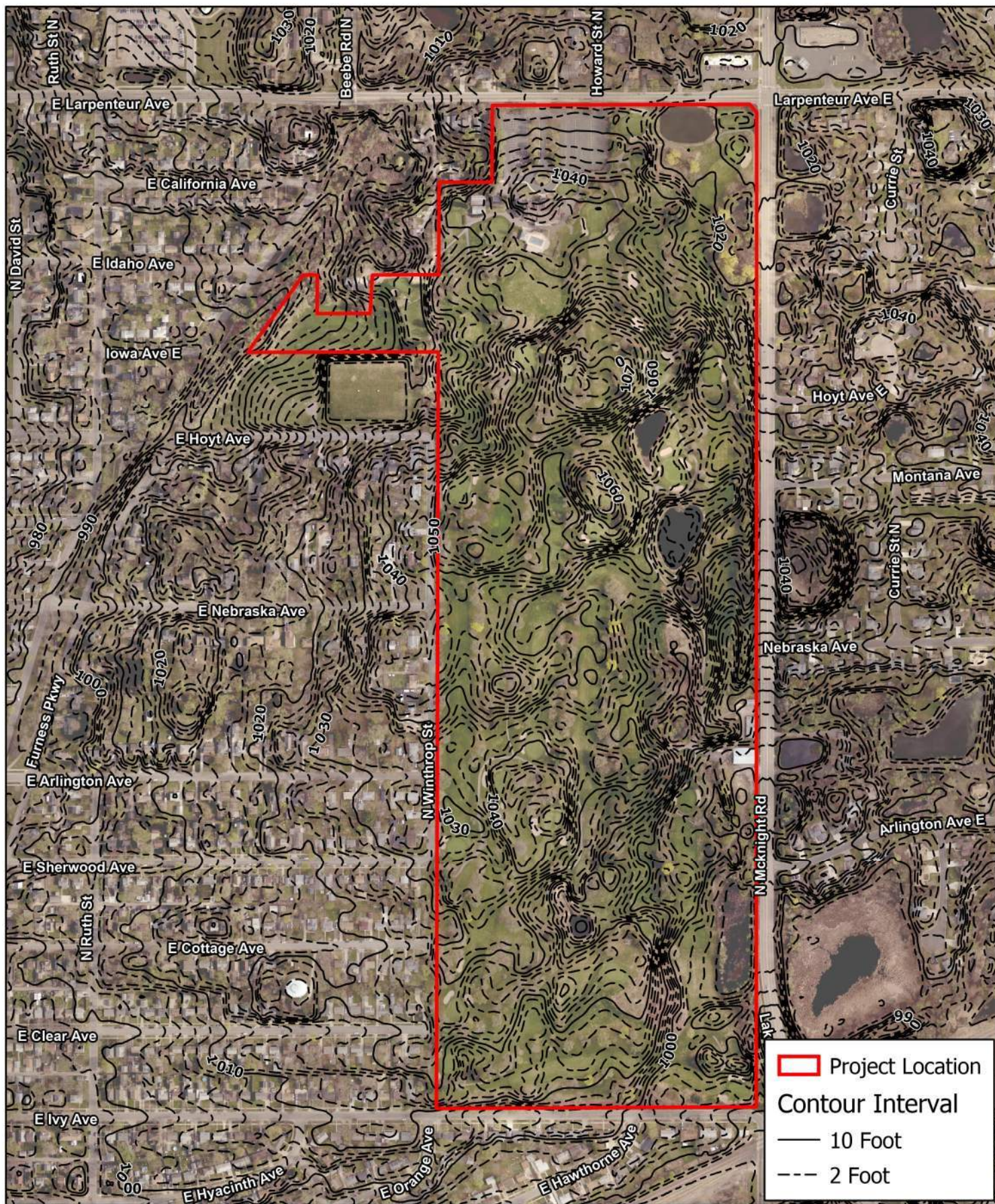


Figure 2: Topography

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 500
Feet
1 inch = 500 feet



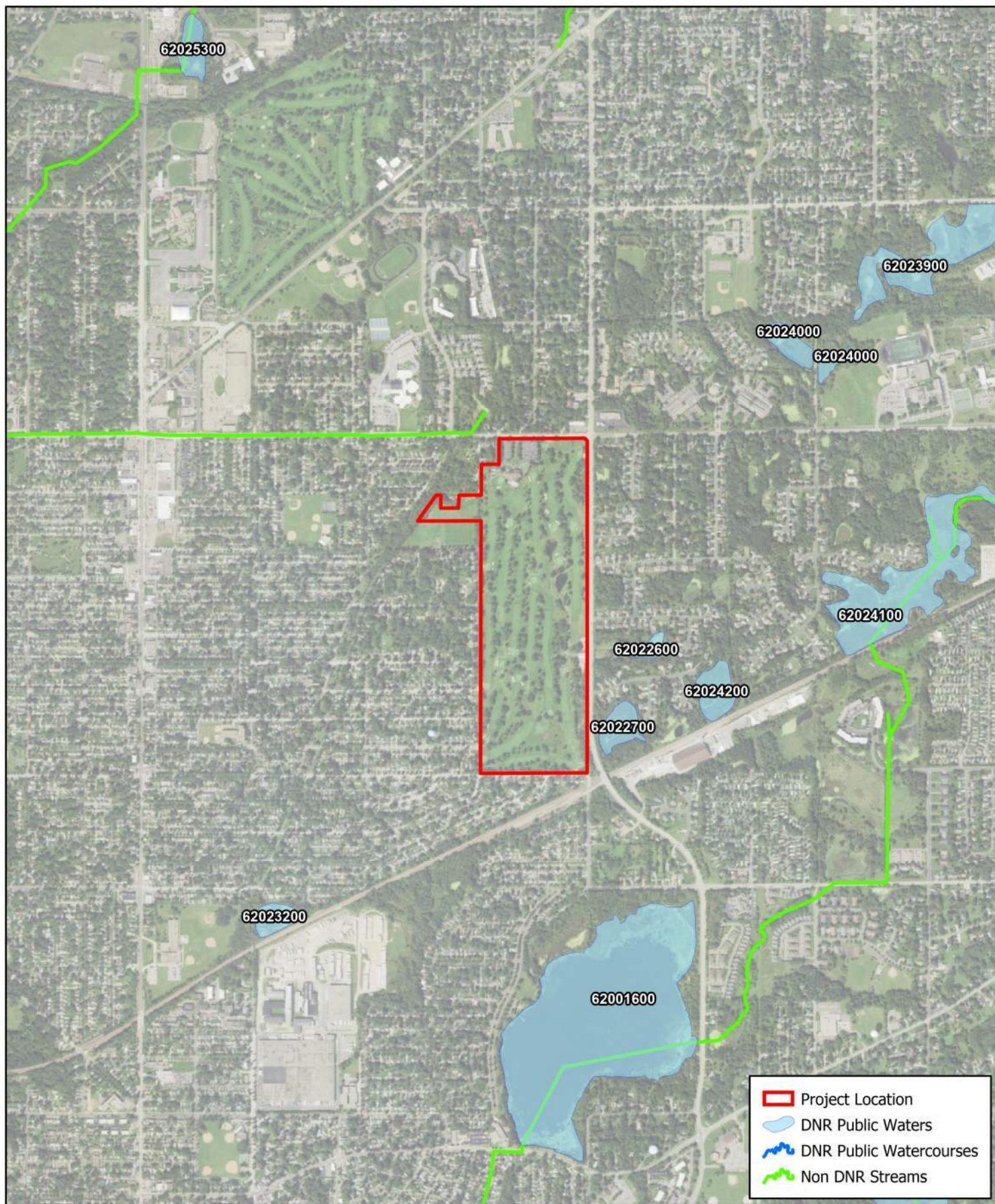


Figure 3: DNR Public Waters

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 1,500
Feet
1 inch = 1,500 feet



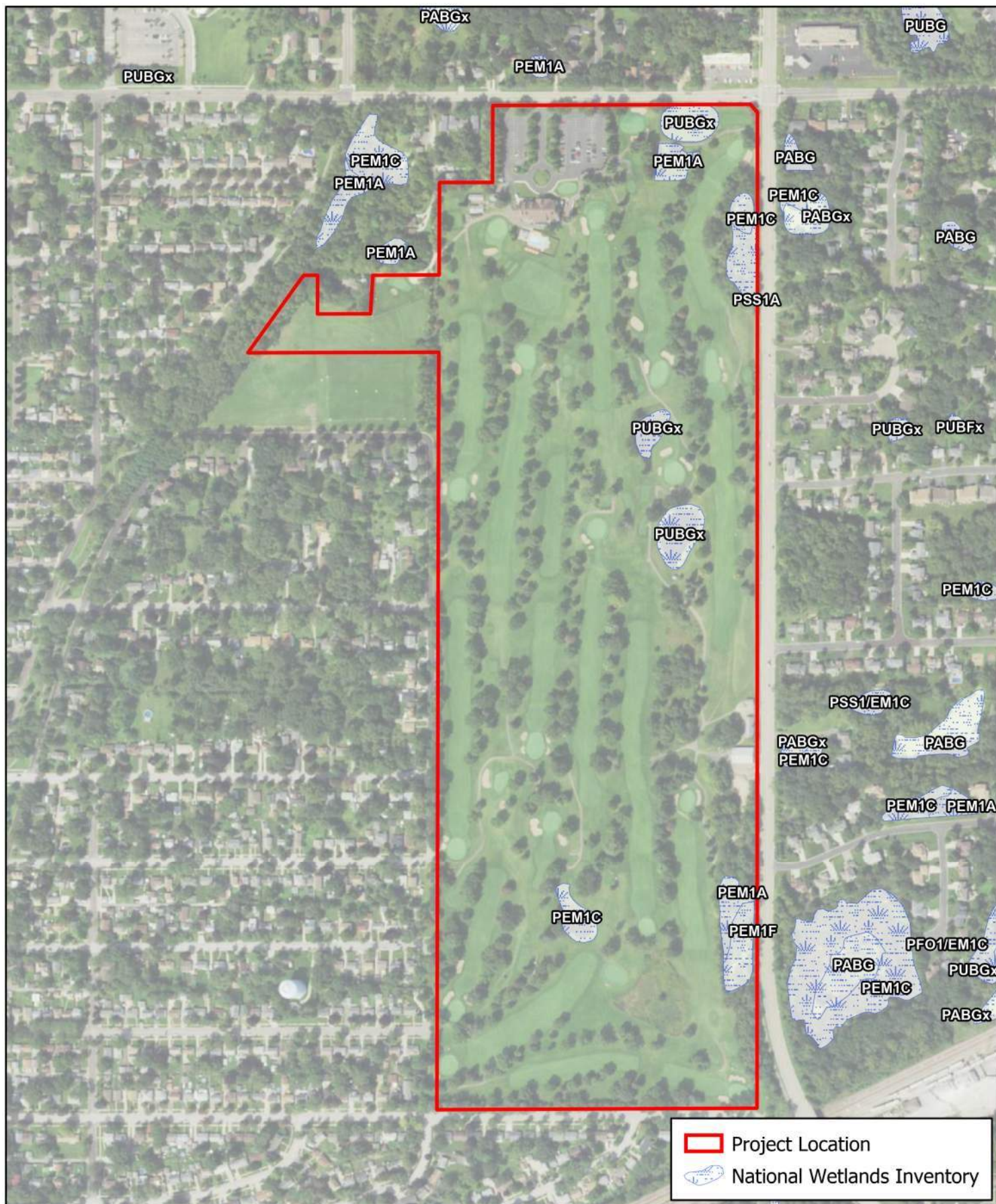


Figure 4: National Wetlands Inventory

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 500
Feet
1 inch = 500 feet



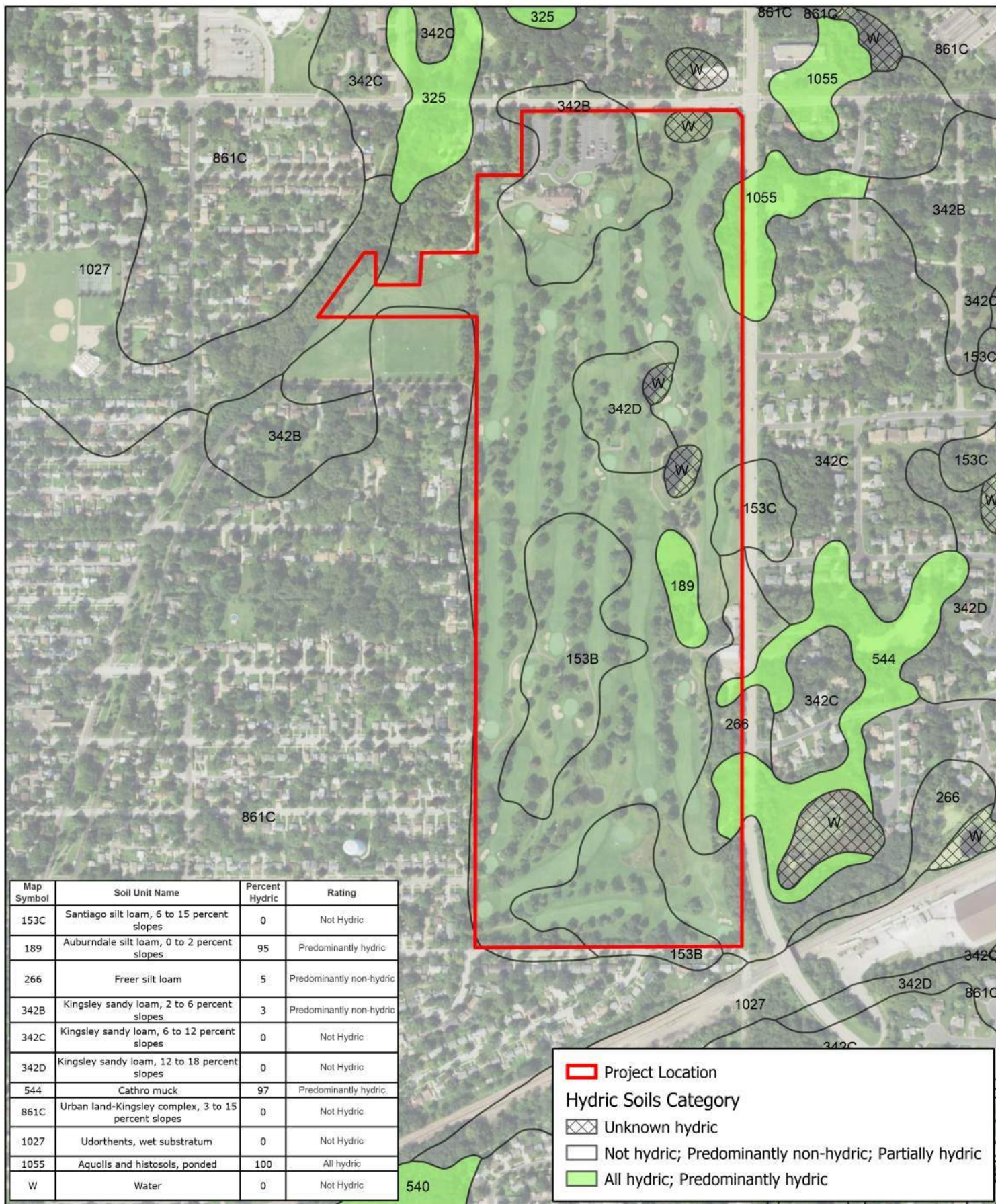


Figure 5: County Soil Survey
 Hillcrest Redevelopment Master Plan
 St. Paul Port Authority
 St. Paul, MN



0 600
 Feet
 1 inch = 600 feet



APPENDIX

APPENDIX B

Figure 6: Wetland Delineation
Wetland Determination Data Forms



Figure 6a Wetland Delineation

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 475
Feet
1 inch = 475 feet





Figure 6b Wetland Delineation

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 150
Feet
1 inch = 150 feet





Figure 6c Wetland Delineation

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 150
Feet
1 inch = 150 feet



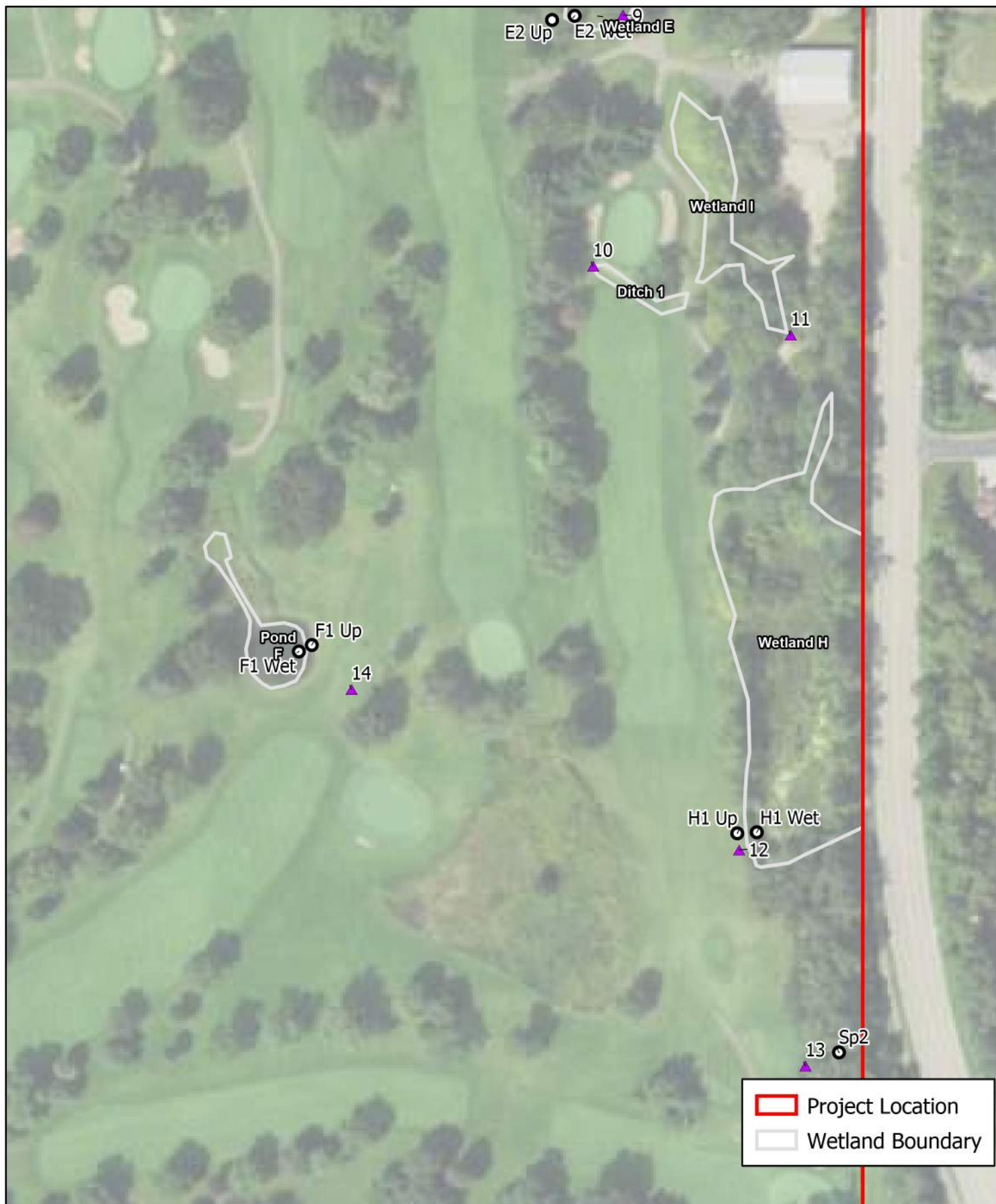


Figure 6d Wetland Delineation

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 150
Feet
1 inch = 150 feet





Figure 6e Wetland Delineation

Hillcrest Redevelopment Master Plan
St. Paul Port Authority
St. Paul, MN



0 150
Feet
1 inch = 150 feet



WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: B1 Up
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 44.991312 Long: -93.0005915 Datum:
 Soil Map Unit Name Kingsley sandy loam NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal and is mowed.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>98</u> x 3 = <u>294</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>302</u> (B) Prevalence Index = B/A = <u>3.02</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>98</u>	<u>Y</u>	<u>FAC</u>	
2	<u>arctium minus</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
3	<u>Cirsium arvense</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

Mowed golf course

SOIL

Sampling Point: B1 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 2/1	100					Loam	
5-20	10YR 4/3	100					Sandy Loam	
20-24	10YR 5/1	95	7.5 YR 4/6	5	C	M	Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

10YR 4/3 layer lacked redox as in wetland sample point

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: B1 Wet
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.991329 Long: -93.00602 Datum:
 Soil Map Unit Name Kingsley sandy loam NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal and is mowed.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Salix nigra</u>		<u>15</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Ulmus americana</u>		<u>5</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
		<u>20</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				Prevalence Index Worksheet Total % Cover of: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>98</u> x 3 = <u>294</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>120</u> (A) <u>327</u> (B) Prevalence Index = B/A = <u>2.73</u>
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Poa pratensis</u>		<u>98</u>	<u>Y</u>	<u>FAC</u>	
2 <u>arctium minus</u>		<u>1</u>	<u>N</u>	<u>FACU</u>	
3 <u>Cirsium arvense</u>		<u>1</u>	<u>N</u>	<u>FACU</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Mowed golf course fringe on the edge of a cattail marsh.

SOIL

Sampling Point: B1 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10YR 2/1	100					Loam	
7-16	10YR 4/3	85	5YR 4/6	15	C	M	Sandy Loam	
16-24	10YR 5/1	90	7.5 YR 4/6	10	C	M	Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input checked="" type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? Y

Remarks:

Same brown layer found within cattails. Layer is one shade off from meeting depleted below dark surface. Sand layer p

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <u>0-6 inches</u>

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area has saturation at the surface but does not have a water table present at time of site visit.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: C1 Up
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 44.990613 Long: -93.003638 Datum:
 Soil Map Unit Name Aquolls and histosols NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal and is mowed.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>98</u> x 3 = <u>294</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>302</u> (B) Prevalence Index = B/A = <u>3.02</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>98</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Arctium minus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: C1 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-21	10YR 2/1	100					Loam	
21-30	10YR 2/1	90					Loam	
21-30	10YR 4/3	10					Loam	
30-36	10YR 4/3	100					Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes ☐ No ☒ Depth (inches): _____
 Water table present? Yes ☐ No ☒ Depth (inches): _____
 Saturation present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: C1 Wet
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.991312 Long: -93.0005915 Datum:
 Soil Map Unit Name Aquolls and histosols NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed?

Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal.	

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Ulmus americana</u>	50	Y	FACW	
2 <u>Salix nigra</u>	40	Y	OBL	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4				
5				
	90	= Total Cover		
Sapling/Shrub stratum (Plot size: <u>15'</u>)				
1 <u>Rhamnus cathartica</u>	20	Y	FAC	Prevalence Index Worksheet
2 <u>Salix interior</u>	10	Y	FACW	
3				Total % Cover of:
4				OBL species <u>40</u> x 1 = <u>40</u>
5				FACW species <u>60</u> x 2 = <u>120</u>
				FAC species <u>20</u> x 3 = <u>60</u>
				FACU species <u>0</u> x 4 = <u>0</u>
				UPL species <u>0</u> x 5 = <u>0</u>
	30	= Total Cover		Column totals <u>120</u> (A) <u>220</u> (B)
Herb stratum (Plot size: <u>5'</u>)				
1				Prevalence Index = B/A = <u>1.83</u>
2				
3				
4				
5				
6				
7				
8				
9				
10				
	0	= Total Cover		
Woody vine stratum (Plot size: <u>30'</u>)				
1				
2				
	0	= Total Cover		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

X Dominance test is >50%

X Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: C1 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					Muck	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input checked="" type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input checked="" type="checkbox"/> Surface Water (A1) |
| <input checked="" type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>Surface</u>
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>0</u>
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>0</u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: E1 Up
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 44.986135 Long: -93.006282 Datum:
 Soil Map Unit Name Aquolls and histosols NWI Classification: PEMB

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>95</u> x 3 = <u>285</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>305</u> (B) Prevalence Index = B/A = <u>3.05</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>95</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Cirsium arvense</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
3	<u>Arctium minus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: E1 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-11	10YR 2/1	100					Loam	
11-15	10YR 2/1	100					Clay loam	
15-24	10YR 4/4	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes ☐ No ☒ Depth (inches): _____
 Water table present? Yes ☐ No ☒ Depth (inches): _____
 Saturation present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: E1 Wet
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.986135 Long: -93.006282 Datum:
 Soil Map Unit Name Aquolls and histosols NWI Classification: PEMB

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal.	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.00</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: E1 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	100					Loam	
13-19	10YR 2/1	100					Clay loam	
19-24	10YR 5/1	95	10YR 4/6	5	C	M	Clay Loam	
30-36	10YR 4/3	100						

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☒ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches): _____
 Water table present? Yes No X Depth (inches): _____
 Saturation present? Yes X No Depth (inches): 0-5
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area had saturation at the surface but did not have a watertable present.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: E2 Up
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
 Slope (%): 8 Lat: 44.985173 Long: -93.006591 Datum:
 Soil Map Unit Name Auburndale silt loam Auburndale silt loam NWI Classification: PSSA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1 <u>Acer saccharinum</u>	25	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u>	(A)
2				Total Number of Dominant Species Across all Strata: <u>2</u>	(B)
3				Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u>	(A/B)
4					
5					
	25	= Total Cover			
Sapling/Shrub stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet	
1				Total % Cover of:	
2				OBL species <u>0</u> x 1 = <u>0</u>	
3				FACW species <u>25</u> x 2 = <u>50</u>	
4				FAC species <u>0</u> x 3 = <u>0</u>	
5				FACU species <u>30</u> x 4 = <u>120</u>	
	0	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>55</u> (A) <u>170</u> (B)	
				Prevalence Index = B/A = <u>3.09</u>	
Herb stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Arctium minus</u>	30	Y	FACU	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)	
2					
3					
4					
5					
6					
7					
8					
9					
10					
	30	= Total Cover			
Woody vine stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present? <u>N</u>	
1					
2					
	0	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: E2 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Loam	
8-17	10YR 3/2	100					Clay Laom	
17-24	10YR 4/4	100					Clay Laom	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: E2 Wet
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.985186 Long: -93.006489 Datum:
 Soil Map Unit Name Aquolls and histosols NWI Classification: PSSA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal.	

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer saccharinum</u>	25	Y	FACW	
2 <u></u>				Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 <u></u>				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 <u></u>				
5 <u></u>				
25 = Total Cover				Prevalence Index Worksheet
Sapling/Shrub stratum (Plot size: <u>15'</u>)				
1 <u>Acer saccharinum</u>	10	Y	FACW	Total % Cover of:
2 <u></u>				OBL species <u>0</u> x 1 = <u>0</u>
3 <u></u>				FACW species <u>60</u> x 2 = <u>120</u>
4 <u></u>				FAC species <u>0</u> x 3 = <u>0</u>
5 <u></u>				FACU species <u>0</u> x 4 = <u>0</u>
10 = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
Herb stratum (Plot size: <u>5'</u>)				Column totals <u>60</u> (A) <u>120</u> (B)
1 <u>Phalaris arundinacea</u>	25	Y	FACW	Prevalence Index = B/A = <u>2.00</u>
2 <u></u>				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
3 <u></u>				
4 <u></u>				
5 <u></u>				
6 <u></u>				
7 <u></u>				
8 <u></u>				
9 <u></u>				
10 <u></u>				
25 = Total Cover				
Woody vine stratum (Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1 <u></u>				
2 <u></u>				
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: E2 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10YR 2/1	100					Loam Muck	
7-18	10YR 2/1	100					Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input checked="" type="checkbox"/> Surface Water (A1) |
| <input checked="" type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>Surface</u>
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>0</u>
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>0</u>

(includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: F1 Up
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
 Slope (%): 10 Lat: 44.983149 Long: -93.007816 Datum:
 Soil Map Unit Name Kingsley Sandy Loam NWI Classification: PSSA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal. Area is mowed.	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1		<u>80</u>	<u>Y</u>		
2					
3					
4					
5					
		<u>80</u> = Total Cover			
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: F1 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 2/1	100					Loam	
5-11	10YR 2/1	80					Loam	
	10YR 4/4	20					Loam	
11-24	10YR 4/4	100					Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes ☐ No ☒ Depth (inches): _____
 Water table present? Yes ☐ No ☒ Depth (inches): _____
 Saturation present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: F1 Wet
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.983149 Long: -93.007816 Datum:
 Soil Map Unit Name Auburndale silt loam Auburndale silt loam VWI Classification: PSSA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal.	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2.00</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1	<u>Salix interior</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
		<u>80</u> = Total Cover			
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>0</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: F1 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1	100					Loam	
14-24	10YR 5/2	90	10YR 4/6	10	C	M	Clay Laom	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area appears to be a former pond that had water pumped in. Water is no longer pumped in and the area is dryer than it would have been in the past.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: H1 Up
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 44.982638 Long: -93.00562 Datum:
 Soil Map Unit Name Cathro Muck NWI Classification: PEMF

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	<u>Populus tremuloides</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
		<u>25</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Rhamnus cathartica</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
		<u>40</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>35</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: H1 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-9	10YR 2/1	100					Loam	
9-16	10YR 2/1	100					Clay loam	
16-24	10YR 4/4	100					Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: H1 Wet
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.982638 Long: -93.00562 Datum:
 Soil Map Unit Name Cathro Muck VWI Classification: PEMF

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	<u>Populus tremuloides</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
2				
3				
4				
5				
		<u>25</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species	Indicator Status
1		<u>40</u>	<u>Y</u>	
2				
3				
4				
5				
		<u>40</u>	= Total Cover	
Herb stratum	(Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	<u>Carex lacustris</u>	<u>45</u>	<u>Y</u>	<u>OBL</u>
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>45</u>	= Total Cover	
Woody vine stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
		<u>0</u>	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>45</u>	x 1 =	<u>45</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>25</u>	x 3 =	<u>75</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>70</u>	(A)	<u>120</u> (B)

Prevalence Index = B/A = 1.71

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

X Dominance test is >50%

X Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?

Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: H1 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Muck	
8-18	10YR 2/1	100					Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input checked="" type="checkbox"/> Surface Water (A1) |
| <input checked="" type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	Surface <u> </u>
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>0</u>
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches):	<u>0</u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: J1 Up
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 44.989838 Long: -93.01193 Datum:
 Soil Map Unit Name Udorthents NWI Classification: PEMF

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal.	

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1 <u>Quercus rubra</u>	25	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u>	(A)
2 <u>Fraxinus pennsylvanica</u>	20	Y	FACW	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 <u>Acer saccharinum</u>	20	Y	FACW	Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u>	(A/B)
4 <u></u>					
5 <u></u>					
	65	= Total Cover			
Sapling/Shrub stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet	
1 <u></u>	40	Y		Total % Cover of:	
2 <u></u>				OBL species <u>0</u> x 1 = <u>0</u>	
3 <u></u>				FACW species <u>40</u> x 2 = <u>80</u>	
4 <u></u>				FAC species <u>0</u> x 3 = <u>0</u>	
5 <u></u>				FACU species <u>25</u> x 4 = <u>100</u>	
	40	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>65</u> (A) <u>180</u> (B)	
				Prevalence Index = B/A = <u>2.77</u>	
Herb stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u></u>	35	Y		<u></u> Rapid test for hydrophytic vegetation	
2 <u></u>				<u></u> Dominance test is >50%	
3 <u></u>				<u>X</u> Prevalence index is ≤3.0*	
4 <u></u>				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
5 <u></u>				Problematic hydrophytic vegetation* (explain)	
6 <u></u>					
7 <u></u>					
8 <u></u>					
9 <u></u>					
10 <u></u>					
	35	= Total Cover			
Woody vine stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present? <u>Y</u>	
1 <u></u>					
2 <u></u>					
	0	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: J1 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR 2/1	100					Loam	
16-24	10YR 4/4	100					Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: J1 Wet
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.989838 Long: -93.01193 Datum:
 Soil Map Unit Name Cathro Muck VWI Classification: PEMF

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed?

Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Area is wetter than normal.	

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer saccharinum</u>	25	Y	FACW	
2 <u>Fraxinus pennsylvanica</u>	20	Y	FACW	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3				Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
4				
5				
	45	= Total Cover		
Sapling/Shrub stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet
1	40	Y		
2				OBL species <u>0</u> x 1 = <u>0</u>
3				FACW species <u>45</u> x 2 = <u>90</u>
4				FAC species <u>0</u> x 3 = <u>0</u>
5				FACU species <u>0</u> x 4 = <u>0</u>
	40	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
Herb stratum (Plot size: <u>5'</u>)				Column totals <u>45</u> (A) <u>90</u> (B)
1				Prevalence Index = B/A = <u>2.00</u>
2				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
3				
4				
5				
6				
7				
8				
9				
10				
	0	= Total Cover		
Woody vine stratum (Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1				
2				
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: J1 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1	100					Loam	
14-24	10YR 5/2	90	10YR 4/4	10	C	M	Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	0-6

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface saturation but did not have a water table present.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: Sp 1
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.988758 Long: -93.00912 Datum:
 Soil Map Unit Name Kingsley sandy loam NWI Classification: PEMF

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	<u>Populus tremuloides</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
		<u>25</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>115</u> x 3 = <u>345</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>125</u> (A) <u>365</u> (B) Prevalence Index = B/A = <u>2.92</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: Sp 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					Loam	
18-24	10YR 4/4	100					sandy loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface saturation but did not have a water table present.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hillcrest Redevelopment City/County: St. Paul Sampling Date: 4/22/20
 Applicant/Owner: St. Paul Port Authority State: MN Sampling Point: Sp 2
 Investigator(s): Dustin S. Section, Township, Range: S23, T29, R22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 44.982026 Long: -93.00528 Datum:
 Soil Map Unit Name Kingsley sandy loam NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Area is wetter than normal.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	<u>Quercus rubra</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
		<u>25</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>25</u> (A) <u>80</u> (B) Prevalence Index = B/A = <u>3.20</u>
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>0</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: Sp 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Loam	
8-16	10YR 2/1	100					sandy loam	
16-24	10YR 4/4	100					Sandy loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface saturation but did not have a water table present.

APPENDIX

APPENDIX C

Wetland Photos



Photo 1 Wetland A looking northwest



Photo 2 Wetland B looking south



Photo 3 Wetland B looking south eastern boundary



Photo 4 Wetland A looking east northern edge



Photo 5 Wetland C looking south



Photo 6 Wetland D looking north



Photo 7 Wetland E looking south



Photo 8 Wetland E looking north



Photo 9 Wetland E looking east south edge



Photo 10 Wet Ditch leading into Wetland I looking east



Photo 11 Wetland I looking north



Photo 12 Wetland H looking east south end



Photo 13 SP 2 looking east



Photo 14 Wetland F looking north



Photo 15 Wetland G looking northeast



Photo 16 SP 1 looking south



Photo 17 Wetland J looking northwest

APPENDIX

APPENDIX D

Antecedent Precipitation Data

NRCS method - Rainfall Documentation Worksheet Hydrology Tools for Wetland Determination
NRCS Engineering Field Handbook Chapter 19

Date	4/20/2020	Landowner/Project	Hillcrest Redevelopment
Weather Station	Midvale	State	MN
County	Ramsey	Growing Season	Yes
Photo/obs Date	4/23/2020	Soil Name	Various

shaded cells are
locked or calculated

Long-term rainfall statistics
(from WETS table or State
Climatology Office)

	Month	30% chance <	30% chance >	Precip	Condition Dry, Wet, Normal	Condition Value	Month Weight Value	Product of Previous 2 Columns
1st Prior Month*	March	1.46	2.21	2.54	W	3	3	9
2nd Prior Month*	February	0.52	1.14	0.60	N	2	2	4
3rd Prior Month*	January	0.59	1.32	0.73	N	2	1	2
Sum								15

*compared to photo/observation date

Note: If sum is

6 - 9	prior period has been drier than normal
10 - 14	prior period has been normal
15 - 18	prior period has been wetter than normal

Condition value:

Dry =1

Normal =2

Wet =3

Conclusions: prior period has been wetter than normal